

We claim:

1. A method for manufacturing a filler neck

comprising the following steps:

forming a mouthpiece having a circumferential wall portion in a sectional circular shape,

forming a feeding pipe having a circumferential wall portion in a sectional circular shape,

fitting the circumferential wall portion of the mouthpiece in the circumferential wall portion of the feeding pipe in a closely overlapped condition, and

welding the circumferential wall portions at a welding area W defined in a range of an overlapped area S defined by the overlapped circumferential wall portions;

characterized by that:

the welding is executed by a seam welding utilizing an internal welding electrode and an external welding electrode;

the internal welding electrode is a cylinder having an outer diameter smaller than an inner diameter of the circumferential wall portion of the mouthpiece, which has an electrode region on a side face of the cylinder and is inserted in the mouthpiece to press the electrode region against an inner face of the circumferential wall portion of the mouthpiece at a predetermined pressure,

the external welding electrode is a flat disk having a thickness

equivalent to a width of the welding area W , which has an electrode region on a circumference face of the disk and presses the circumference face thereof against an outer face of the circumferential wall portion of the feeding pipe at a predetermined pressure, and

both the welding electrodes together holding the overlapped circumferential wall portions of the mouthpiece and of the feeding pipe within the welding area W therebetween, allowing the mouthpiece and the feeding pipe, the internal welding electrode, and the external welding electrode to respectively rotate at synchronized peripheral speed, applying a predetermined electric current to the internal welding electrode and the external welding electrode, and thereby integrate the mouthpiece and the feeding pipe.

2. A method for manufacturing a filler neck according to Claim 1, wherein

a pressure by the internal welding electrode and the external welding electrode is set in a range of 25 through 50 MPa, and a predetermined electric current applying to the internal welding electrode and the external welding electrode is in a range of 3,000 through 7,000 A.

3. A method for manufacturing a filler neck according to Claim 1,
wherein

the internal welding electrode is rotated with a rotation axis thereof
which a friction clutch is built in, so that the friction clutch slips
to prevent the difference in peripheral speed between the internal
welding electrode and the external welding electrode.

4. A method for manufacturing a filler neck according to Claim 1,
wherein

the circumferential wall portion of the mouthpiece is formed by radially
reducing the body of the mouthpiece through a tapered portion into
a sectional circular shape,

an upper edge of the circumferential wall portion of the mouthpiece
is defined to be a boundary portion between the tapered portion and
the circumferential wall portion of the mouthpiece, and
thereby fits the circumferential wall portion of the mouthpiece in
the circumferential portion of the feeding pipe in a manner where
a peripheral edge of the feeding pipe abuts to the upper edge of the
circumferential wall portion of the mouthpiece.

5. A method for manufacturing a filler neck according to Claim 1,
wherein

a partition of the mouthpiece is formed by radially and inwardly reducing
a lower edge of the circumferential wall portion of the mouthpiece

having a sectional circular shape as being of an orthogonal surface to the circumferential wall portion of the mouthpiece, an annular rib functioning as a gun guide is integrally formed to be downwardly projected from the partition, and thereby rotates the internal welding electrode while sliding an insulated nose face of the internal welding electrode contacting onto an inner face of the partition of the mouthpiece.